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Traditional Medicine Practices for the treatment of Blood pressure, Body pain, Gastritis, Gonorrhea, Stomachic, Snake bite and Urinary problems of Santal Tribal Practitioners at the Village Jamtala of Chapai Nawabganj District, Bangladesh

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Abstract

Traditional medicine practices for the treatment of blood pressure, body pain, gastritis, gonorrhea, stomachic, and snake bite and urinary problems of Santal tribal practitioners at the village Jamtala of Chapai Nawabganj district, Bangladesh was carried out. The information presented in this paper was gathered by field visit, participatory observation, group discussion and interviews with questionnaires in the year July 2013 to June 2015 after frequent field visit in the study area. A total of 38 ethno-medicinal plant species belonging to 31 families and 36 genera are documented in this study. The plants used for different purpose are listed with scientific name, common name, family; ethno-botanical importance and parts used. The investigation can be concluded that the plant can considered as a suitable source of pharmaceutical industry for new drug development.

Keywords: Medicinal Plants; Indigenous Uses; Drug Development; Chapai Nawabganj; Bangladesh.

1. Introduction

Ethnobotany is the study of relationship between plants and people: From “ethno”-study of people and “botany”-study of plants. Ethnobotany is considered a branch of ethnobiology. Ethnobotany studies the complex relationships between plants and cultures. Ethnobotany is a multidisciplinary science defined as the interaction between plants and people. The relationship between plants and human cultures is not only limited to the use of plants for food, clothing and shelter but also includes their use for religious ceremonies ornamentation and healthcare. People uses wild plants in many types of different way to meet his basic needs such as food, shelter and clothing, this is the basic need of human. Plants are used as a medicine for treatment of internal and external diseases. In developed countries such as United States, Canada, Germany, Australia and New Zealand 20-25% medicinal plant drugs constitute of the total drugs, while in the fast developing countries such as China, India, Brazil, Indonesia and Russia 80-85% much contribution is in countries. There are 2, 50,000 higher plant species are known in the earth; more than 85,000 plant species are medicinal. Collection of information and documentation of traditional knowledge plays an important role in scientific research on drug development [8], [11]. WHO depicts that over 80% of world’s population depends on biological resources for their primary healthcare demands [62].

2. Review of Literatures

Studies on ethno-medicinal information of ethnic communities in Bangladesh are at initial stage. Several ethno-medicinal studies in Bangladesh have been carried out by [2-4], [6], [9], [15], [18-48], [48-49] and [51-61]. In this present research article was to reported about local ethno-botanical uses of plants collected from traditional practitioners to cure seven (7) human diseases at Jamtala village under sadar upazila of Chapai Nawabganj district, Bangladesh.

3. Materials and Methods

A total of twenty one field trips were made for the documentation of ethno-botanical knowledge during July 2013 to June 2015. During the field interview, the information was noted in the documentation data sheet. All the information regarding plant species, biological forms, habitat, local names and uses was documented. Medicinal information was obtained through semi-structured interviews with knowledgeable people such as local Kabiraj/Herbalists and elderly people. Plant specimens were collected with flowers and fruits and processed using standard herbarium techniques [5]. The identification of plant specimens was achieved through the help of taxonomic experts and by comparison with the identified herbarium specimens and available literatures [1], [12], [16], [17], [47] and [50]. The voucher specimens are deposited at the Herbarium, Department of Botany, Rajshahi University for future reference.

4. Results and Discussion

In the present survey, a total of 38 plant species belonging to 36 genera and 31 families were recorded (**Table 1**). Out of these plants species, 17 (44.73%) belonged to herbs, 8 (21.05%) trees, 8 (21.05%) shrubs, and 5 (13.15%) climbers (**Figure 1**). For each species scientific name, local name, family, habit, mode of uses and part(s) used are provided. The most frequently used species for the treatment of different diseases are *Abroma augusta* (L.) f., *Amaranthus spinosus* L., *Azadirachta indica* A. Juss. *Allium sativum* L., *Alocasia indica* (Roxb.) Schott., *Bryophyllum pinnatum* (Lam.) Oken, *Costus speciosus* (Koenig) Sm., *Cuscuta reflexa* Roxb., *Carica papaya* L., *Commelina benghalensis* L., *Ficus racemosa* L., *Justicia gendarussa* L., *Phyllanthus emblica* L., *Piper nigrum* L., *Terminalia arjuna* (Roxb. ex DC.) Wight & Arn. and *Xanthium indicum* J. Koenig ex Roxb.

Use of plant parts as medicine shows variation (**Table 1**). Leaves (21.05%) are the leading part used in a majority of medicinal plants followed by 18.42% root, 13.15% fruit, 2.63% flower, 15.78% whole plant, 7.89% bark, 10.52% stem, 2.63% seed, 2.63% gum, 2.63% bulb, 2.63% tuber, 2.63% central tender part and 2.63% rhizome. Distribution of medicinal plant species in the families shows variation. Each of Acanthaceae, Amaranthaceae, Araceae, Asteraceae, Euphorbiaceae, Liliaceae and Moraceae is represented by 2 species. A single species in each was recorded by 24 families (**Table 1**). The survey indicated that the common medicinal plant families in the study area are Acanthaceae, Amaranthaceae, Apocynaceae, Araceae, Arecaceae, Asteraceae, Costaceae, Cucurbitaceae, Caricaceae, Combretaceae, Crassulaceae, Euphorbiaceae, Lamiaceae, Liliaceae, Meliaceae, Malvaceae, Moraceae, Piperaceae, Sterculiaceae and Zingiberaceae. This finding of common medicinal plant families in the study is in agreement with [4], [7], [10], [13-14] and [63-65].

5. Conclusions

The results of the present study provide evidence that medicinal plants continue to play an important role in the healthcare system of the Santal community. They still continue to depend on medicinal plants for the treatment of healthcare problems. The data collected show that majority of the remedies are taken orally. Generally, the present paper represents significant ethno-botanical information on medicinal plants which provides baseline data for future pharmacological and phytochemical studies.

Table1: Medicinal plants used by Santal tribal practitioners at Jamtala under Sadar Upazila of Chapai Nawabganj District, Bangladesh.

S/N	Scientific Name	Local Name	Family Name	Habit	Parts used	Mode of uses
01	*Abroma augusta* (L.) f.	Ulat Kambal	Sterculiaceae	Shrub	Roots	Root bark extracts is used to cure pain.
02	*Amaranthus viridis* L.	Notey	Amaranthaceae	Herb	Whole plant	The plant juice mixed with water is used in stomachic.
03	*Amaranthus spinosus* L.	Katanotey	Amaranthaceae	Herb	Root	Juice made from root extracts is used for gonorrhea.
04	*Abelmoschus esculentus* (L.)	Dherosh	Malvaceae	Shrub	Fruits	Fruits juice mixed with cold

	Moench.					water is used for stomachic.
05	*Azadirachta indica* A. Juss.	Neem	Meliaceae	Tree	Leaves	Decoction of leaves is used as a gargle which cures swollen gums pain.
06	*Allium cepa* L.	Piaj	Liliaceae	Herb	Bulb	Macerated bulb juice is applied on the affected area for snake bite.
07	*Allium sativum* L.	Rosun	Lilaceae	Herb	Leaf	Garlic is taken with hot rice to treat high blood pressure.
08	*Alocasia indica* (Roxb.) Schott.	Mankachu	Araceae	Herb	Whole plant	Pound fresh part applied on the affected area, treating for snake bite.
09	*Brassica napus* L.	Sorisha	Brassicaceae	Herb	Leaves	Curry of leaves is used in stomachic.
10	*Bryophyllum pinnatum* (Lam.) Oken	Pathor kuchi	Crassulaceae	Herb	Leaves	Crushed leaves mixed salt used for stomachic.
11	*Carica papaya* L.	Pepe	Caricaceae	Tree	Fruits	Fruits pulp with bellam is used for stomachic.
12	*Cuscuta reflexa* Roxb.	Shorno lota	Cuscutaceae	Climber	Stem	Juice made from stem is used in stomach pain.
13	*Curcuma zedoaria* Rosc.	Sothi	Zingiberaceae	Herb	Rhizomes and tubers	Grinding, decoction of rhizomes and tubers mixed with water is taken orally to cure stomachic and throat.
14	*Chenopodium album* L.	Batua shak	Chenopodiaceae	Herb	Leaves	Decoction of flowers and buds are used in stomach trouble.
15	*Commelina benghalensis* L.	Kanshira	Commelinaceae	Herb	Whole plant	Pound Fresh part applied on the affected area, treating for snake bite.
16	*Corchorus capsularis* L.	Titapat	Tiliaceae	Shrub	Leaves	Curry of leaves is used in gastric problem.
17	*Costus speciosus* (Koenig) Sm.	Keu	Costaceae	Herb	Rhizome	Rhizome paste is taken internally when urine contains blood. Rhizome paste also used externally body pains.
18	*Datura metel* L.	Dhutura	Solanaceae	Shrub	Flowers	Pound fresh part and applied on the affected area for pains.
19	*Ficus racemosa* L.	Jagdumur	Moraceae	Tree	Gum	Gum is used mixed with water for treatment of acidity.
20	*Justicia gendarussa* L.	Jagatmardan	Acanthaceae	Shrub	Leaves	Paste prepared from the leaves is used for chest pain.
21	*Lagenaria siceraria* (Mol.) Stan.	Lau	Cucurbitaceae	Climber	Leaves	Pulp of the fruit is used in muscular pain.
22	*Leucas aspera* (Willd.) Link.	Setodrone	Laminaceae	Herb	Leaves and root	Macerated leaves juice taken orally and root paste is used in

						same time for snake-bite.
23	*Mimosa pudica* L.	Lojjaboti	Mimosaceae	Climber	Roots	Roots of the plant soaked in raw cow milk are used in snake bites.
24	*Musa sapientum* Linn.	Kola	Musaceae	Herb	Bark	Bark juice is used Snake bite.
25	*Nymphaea stellata* willd.	Chhoto Shaluk	Nymphaeaceae	Herb	Roots, Stems	Decoction of roots and stems are used for urinary tract.
26	*Phoenix sylvestris* (L.) Roxb.	Khajur	Arecaceae	Tree	Central tender part	Decoction of central tender part is used to cure gonorrhea.
27	*Phyllanthus emblica* L.	Amloki	Euphorbiaceae	Tree	Fruits	Dry fruits powder mixed with water is used in stomachic.
28	*Piper nigrum* L.	Golmarich.	Piperaceae	Climber	Dry fruits	Fruits powder mixed with water is used for gastric trouble.
29	*Pistia stratiotes* L.	Topapana	Araceae	Herb	Whole plant	Decoction of the leaves is diuretic and prescribed in diseases of the urinary tract.
30	*Rauvolfia serpentina* Benth.	Sarpa gandha	Apocynaceae	Shrub	Roots	Grinding, decoction of roots is used in high blood pressure.
31	*Ricinus communis* L.	Bherenda	Euphorbiaceae	Shrub	Seed	Seed oil used in joint pains.
32	*Ruellia suffruticosa* Roxb.	Chotpote	Acanthaceae	Shrub	Roots	Decoction of Roots is used in gonorrhea.
33	*Streblus asper* Lour.	Sheora	Moraceae	Tree	Bark , stem	Leaves juice is used in urinary inflammation.
34	*Terminalia arjuna* (Roxb. ex DC.) Wight & Arn.	Arjun	Combretaceae	Tree	Stem bark	Stem bark extracts mixed with cold water is used in high blood pressure.
35	*Tamarindus indica* L.	Tetul	Caesalpiniaceae	Tree	Fruits	Pulp of the ripe fruit is a household remedy for gastritis.
36	*Tinospora cordifolia* Willd.	Guloncho	Menispermaceae	Climber	Stems	Juice obtained from fresh stems of the plant is mixed with cow milk used for gonorrhea.
37	*Vernonia patula* (Dryand.) Merr.	Kukshim	Asteraceae	Herb	Whole plant	Pound fresh part applied on the affected area, treating for snake bite.
38	*Xanthium indicum* J. Koenig ex Roxb.	Hagra	Asteraceae	Herb	Whole plant	Decoction of the plant is used for urinary and renal complaints.

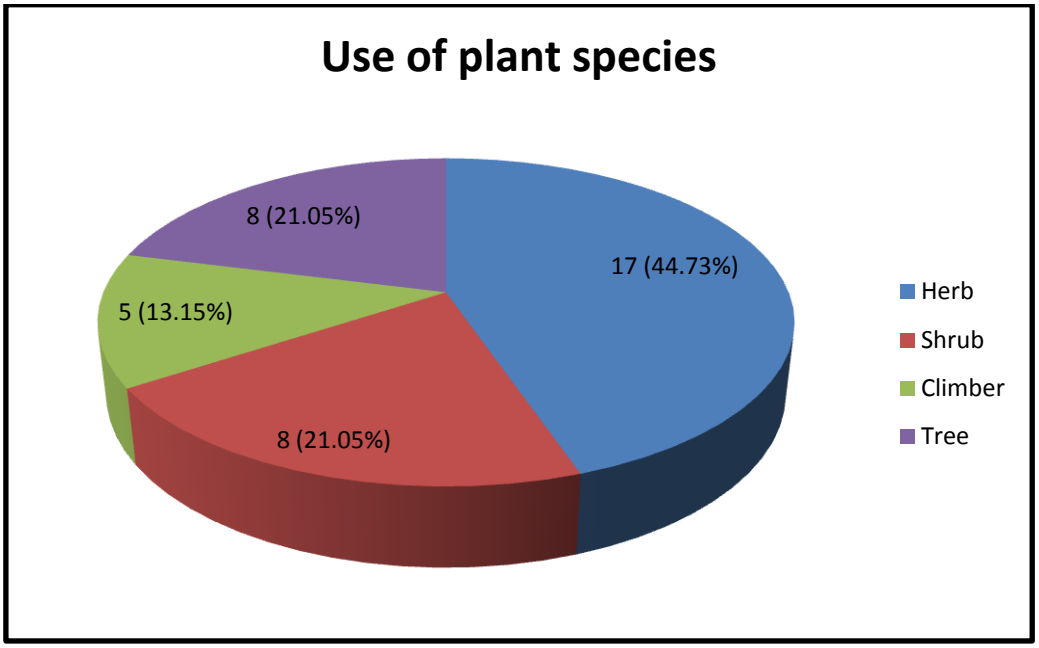


Figure1. Habit analysis of used plant species in the study area.

Photograph of Important Medicinal Plants

Abroma augusta

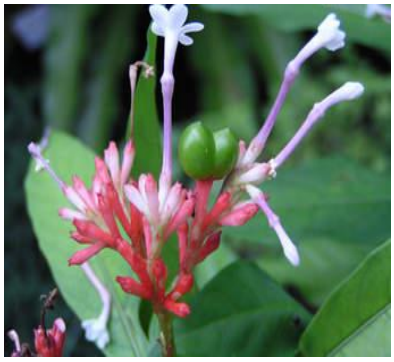
Azadirachta indica

Carica papaya

Curcuma zedorea

Ficus racemosa

Piper nigrum



Rauvolfia serpentina

Tamarindus indica

Terminalia arjuna

Tinospora cordifolia

Streblus asper

Xanthium indicum

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